10   a memory coupled to the controller comprising a computer-readable medium having a

11   computer-readable program embodied therein for directing operation of the system, the computer-

12   readable program comprising:

13   instructions for controlling the gas source and the energy source to convert a portion of a

14   gas supplied by the gas source into a plasma comprising plasma ions and radicals,

15   wherein the first reaction chamber is separated from the second reaction chamber by a

16   distance equivalent to the lifetime of the ions at a plasma generation rate such that the radicals react

17   with a substrate in the second chamber in a film conversion step.

1   20.   (Amended) A machine readable storage medium containing executable program

2   instructions which when executed cause a digital processing system to perform a method of

3   reacting a plasma with a substrate, comprising:

4   generating a plasma from nitrogen comprising radicals and ions in a first chamber; and

5   transferring the plasma radicals via a distance equivalent to the lifetime of the ions into a

6   second chamber substantially free of ions.